

Appl. No. : 09/828,550
Filed : April 6, 2001

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all previous Listing of Claims. Claims 15-45 and 49-57 have been canceled without prejudice. No other amendments are being made.

Listing of Claims:

1. **(Previously presented)** A semiconductor processing apparatus comprising a reaction chamber and one or more vitreous components that have a support surface for supporting other components in the reaction chamber, said support surface being covered at least in part by a devitrification barrier coating that is bonded to said support surface and directly contacts said supported other components in the reaction chamber; where said devitrification barrier coating has a thickness between about 1 and 10,000 angstroms.

2. **(Original)** The apparatus of Claim 1, wherein said one or more vitreous components are formed from quartz.

3. **(Original)** The apparatus of Claim 1, wherein said devitrification barrier comprises silicon nitride.

4. **(Original)** The apparatus of Claim 1, wherein said devitrification barrier coating is formed from silicon nitride that has been deposited on said one or more vitreous components using CVD deposition.

5. **(Canceled)**

6. **(Previously presented)** The apparatus of Claim 1, where said devitrification barrier coating has a thickness between about 50 and 5000 angstroms.

7. **(Previously presented)** The apparatus of Claim 6, where said devitrification barrier coating has a thickness between about 500 and 3,000 angstroms.

8. **(Previously presented)** The apparatus of Claim 7, where said devitrification barrier coating has a thickness of about 800 angstroms.

9. **(Previously presented)** The apparatus of Claim 1, where said devitrification barrier coating is selected from the group consisting of silicon nitride, diamond, titanium nitride, titanium carbon nitride, and combinations thereof.

10. **(Previously presented)** The apparatus of Claim 1, wherein said devitrification barrier coating covers an entire portion of said support surface of said one or more vitreous components.

11. **(Canceled)**

12. **(Canceled)**

13. **(Previously presented)** The apparatus of Claim 1, wherein said apparatus further comprises a support device comprising at least one laterally extending member, said radially extending member including an upwardly extending projection that defines said support surface, said projection and support device configured to support a substrate within said apparatus, said support surface of said projection being covered at least in part by said devitrification barrier coating.

14. **(Original)** The apparatus of Claim 1, wherein said reaction chamber is a chemical vapor deposition reaction chamber.

15-45. **(Canceled)**

46. **(Previously presented)** The apparatus as in Claim 1, wherein said devitrification barrier coating is formed from silicon nitride that has been deposited on said one or more vitreous components using sputtering.

47. **(Previously presented)** The apparatus of Claim 1, wherein said devitrification barrier coating is formed by CVD.

48. **(Previously presented)** The apparatus of Claim 1, wherein said devitrification barrier coating is formed by sputtering.

49-57. **(Canceled)**

58. **(Previously presented)** A semiconductor processing apparatus comprising a reaction chamber and a thermocouple, the thermocouple comprising a quartz sheath having an outer surface that is covered at least in part by a devitrification barrier coating having a thickness between about 1 and 10,000 angstroms.

59. **(Previously presented)** The apparatus of Claim 55, wherein said devitrification barrier comprises silicon nitride.

60. **(Previously presented)** The apparatus of Claim 55, wherein said devitrification barrier coating is formed from silicon nitride that has been deposited on said thermocouple using CVD deposition.

61. **(Previously presented)** The apparatus of Claim 58, where said devitrification barrier coating has a thickness between about 50 and 5,000 angstroms.

62. **(Previously presented)** The apparatus of Claim 59, where said devitrification barrier coating has a thickness between about 500 and 3,000 angstroms.

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63. **(Previously presented)** The apparatus of Claim 60, where said devitrification barrier coating has a thickness of about 800 angstroms.

64. **(Previously presented)** The apparatus of Claim 55, where said devitrification barrier coating is selected from the group consisting of silicon nitride, diamond, titanium nitride, titanium carbon nitride, and combinations thereof.

65. **(Previously presented)** The apparatus of Claim 55, wherein said devitrification barrier coating only covers a portion of said quartz sheath that is most susceptible to devitrification.

66. **(Previously presented)** The apparatus as in Claim 55, wherein said devitrification barrier coating is formed from silicon nitride that has been deposited on said thermocouple using sputtering.

67. **(Previously presented)** The apparatus of Claim 55, wherein said devitrification barrier coating is formed by CVD.

68. **(Previously presented)** The apparatus of Claim 55, wherein said devitrification barrier coating is formed by sputtering.